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Betti, A.; wieland, J.W

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Relata-Specific Relations: A Response to Vallicella

Jan Willem WIELAND & Arianna BETTI

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ABSTRACT

According to Vallicella's 'Relations, Monism, and the Vindication of Bradley's Regress' (2002), if relations are to relate their relata, some special operator must do the relating. No other options will do. In this paper we reject Vallicella's conclusion by considering an important option that becomes visible only if we hold onto a precise distinction between the following three feature-pairs of relations: internality/externality, universality/particularity, relata-specificity/relata-unspecificity. The conclusion we reach is that if external relations are to relate their relata, they must be relata-specific (and no special operator is needed). As it eschews unmereological complexes, this outcome is of relevance to defenders of the extensionality of composition.

1. *The argument*

The business of a relation, so goes the slogan, is to relate (Blanshard 1984, 215). But what does that mean? Relations might well be the sort of things that relate relata, like glue is the sort of thing that glues together the pieces of a broken plate, but what makes relations do the *actual* relating? Do we not need some operator to apply relations to relata and get an actual relating, like glue needs someone to apply it to the pieces of the broken plate? The reply, according to Vallicella (2000, 2002, 2004), is: yes, we do. Relations cannot indeed do their relating work alone. It is not really like fixing a broken plate – that is a crude analogy – but an external operator is needed to make the relation relate its relata.

This is, in a nutshell, Vallicella's point. Following Vallicella's own style, we present the point here below in the form of a master argument, which we distil from two of his papers (2002, 2004). Suppose a relation R holds between a and b . Then:

- (M1) There is a difference between the complex aRb and the sum of constituents $a+R+b$.
- (M2) This difference must have an ontological ground.

- (M3) The ground can only lie in (A) the constituents a , b , or R ; (B) one or more additional constituents of the complex; (C) the complex itself; or (D) something outside the complex.
- (M4) A , B and C , but not D , are implausible.
- (M5) D holds. (from M1-M4)

Let us spell out these steps one by one. Throughout the paper, we speak of a *complex* as a unity of a relation with certain relata, and of a *sum* as the mereological collection of a relation and relata.

(M1) What is the difference between the complex aRb and the sum of its constituents $a+R+b$ mentioned in M1? The difference is that the relation R in the complex actually relates the relata a and b , whereas R in the sum fails in this. As Vallicella states (Vallicella 2000, 241; 2002, 13; 2004, 163), we are dealing with a unity problem: the complex aRb is a unity of R , a and b , whereas the sum $a+R+b$ is just a collection of three items where the unity is by no means guaranteed. This is easier to see, perhaps, if we look at the conditions under which the complex and the sum in question exist: the mereological sum $a+R+b$ exists once a , b and R exist, independently of any connection between them, whereas for the complex aRb this is not the case. The complex aRb exists *only* in the case in which a , b , and R form a unity.

Let us suppose that Argle and Bargle stand two feet away from each other. In this case, we have a complex formed by Argle (a), Bargle (b) and the symmetric relation of standing two feet away (R).¹ Suppose now, as a second case, that Argle and Bargle stand three feet away from each other and that they also both stand two feet away from a plate of crackers (c). In this case, we do *not* have a complex formed by Argle, Bargle, and the relation of standing two feet away, though we have, still, the mereological sum Argle+standing two feet away+Bargle (we do have, of course, the complex aRc formed by Argle, the plate of crackers and the relation of standing two feet away, and the complex bRc formed by Bargle, the plate of crackers and the relation of standing two feet away).

Now this reasoning clearly depends on a cluster of assumptions that one may very well find controversial. One assumption is the principle that the mereological sum $a+R+b$ exists once a , b , and R exist, known in the literature as the principle of Unrestricted Mereological Composition. One may not accept it, but we have no problem with it, and it will play no role in our criticism. As we shall see, Vallicella has at least two more assumptions on the

¹ Special problems posed by non-symmetric relations and their direction will not be addressed in this paper. Furthermore, the three views of non-symmetric relations, discerned by Fine 2000 (the Standard View, Positionalism, and Anti-Positionalism), are all compatible with the results of the present paper.

nature of relations that we need to consider. We will postpone the critical analysis of these assumptions to Section 3.

(M2) The quest for the ontological ground for the difference between aRb and $a+R+b$ comes down to this: in virtue of what does R do its relating work in the complex, but not in the sum? Simply stated, the problem is that a , R , and b might be constituents of all sorts of complexes: R might relate other relata (the very same relation of standing two feet away relates in our first case Argle and Bargle, and in the second case Argle and the plate of crackers, as well as Bargle and the plate of crackers), and a and b might be related by another relation (Argle and Bargle are related by the relation of standing two feet away in the first case and by the relation of standing three feet away in the second), such that the existence of the mere mereological sum $a+R+b$ is not enough to yield aRb . The question in these terms runs: in virtue of what do a , R , and b come together as aRb ? What makes them form a complex rather than a mere sum?

Vallicella emphasises that this question is not about the *empirical cause* of aRb : the answer is not something in the fashion of “Argle’s moving towards Bargle until the distance between them is two feet”. We are searching for an *ontological ground* of the difference between aRb and $a+R+b$ instead (Vallicella 2002, 26-7). To see this, let us put the problem in somewhat different terms: when Argle and Bargle stand two feet away from each other, we have not only the sum Argle+standing two feet away+Bargle, but also the complex in which Argle and Bargle are unified with the relation of standing two feet away.² There is an ontological difference between complex and sum: the complex is *more* as it were, than the mere sum of constituents. But what is responsible for the difference, what grounds this more?

Without such a ground there is the inadmissible inconsistency that a complex is the same and yet more than the sum of its constituents at once. On the one hand, the complex is composed of the three items $a+R+b$, and is therefore identical to this sum. On the other hand the complex is not identical to but more than the mere sum, because only in the complex does R relate its relata. If complexes involve an inconsistency, we cannot admit them in the catalogue of the world. But if relations are to relate, and if they do so only in complexes, it cannot be allowed that there are no complexes. Hence, an ontological ground for the difference between aRb and $a+R+b$ is required.

² Vallicella does not put things this way and does not address the question of coincidence explicitly, but holding that if you have a complex aRb , you have the sum $a+R+b$ automatically (2002, 12), and holding that the complex and the sum are numerically different, is accepting that there are *two* different objects exactly at the same place and at the same time.

(M3-M4) The ground may lie in the following four things: (A) the constituents; (B) one or more extra constituents; (C) the complex itself; or (D) something outside the complex. Options A, B and C are rejected, and D put forward, in the following way:

(A) The ground of the difference between aRb and $a+R+b$ cannot be a difference in the constituents a , b , or R , because M1's underlying assumption is that the constituents are the same. One might deny this assumption by holding that there is a difference between R in the sum, and R in the complex. However, this does not solve anything, for the question would then become: why does R in the sum differ from R in the complex? This is merely a restatement of M2's problem, and not a solution to it. So, following Vallicella, we take R to be exactly the same object in both the complex and in the sum. Furthermore, saying that the ground of the difference is not a difference in R but a difference in the relata of R would just mean changing the subject: our problem is finding a ground for the difference between aRb and $a+R+b$, not between something else, say, $a'Rb$ and $a+R+b$.

(B) The ground of the difference between aRb and $a+R+b$ cannot lie in additional constituents of the complex. First, the addition of the binding or exemplification relation EX to the sum involves Bradley's Relation Regress (Bradley 1893, 27-8). Second, the addition of the non-relational tie NEX – which does not ignite the Relation Regress – is no help in solving the unity problem which we are trying to solve. Let us first have a closer look at Bradley's Relation Regress:³

- (T) R relates in aRb , but not in $a+R+b$.
- (S1) In virtue of what does R relate the relata a and b ?
In virtue of relation EX which unifies R with a and b .
- (S2) In virtue of what does relation EX relate the relata a , R , and b ?
In virtue of relation EX^* which unifies EX with a , R , and b .
- (S3) In virtue of what does relation EX^* relate the relata a , R , EX , and b ?
In virtue of relation EX^{**} which unifies EX^* with a , R , EX , and b .
- (S4) And so on infinitely.

Now the problem in this infinite regress is that the additional constituent postulated, EX , is *itself a relation*. But how about we postulate a non-relational tie, NEX , as some have suggested? Since NEX is not a relation, it does not generate the Relation Regress. NEX

³ Our reconstruction of Bradley's Relation Regress adopts the general structure of an infinite regress from Maurin (2007). T is the trigger-statement, and T is followed by an infinity of steps S1-N, which are question-answer pairs.

solves nothing, however. Consider $aRNEXb$: what is the ground of the unity of $aRNEXb$? In what would $aRNEXb$ be different from $a+R+NEX+b$? The problem is that NEX might tie R to anything, so why is it tying R to a and b ? As Vallicella adds, even if R were an unsaturated entity $_R_$ in need of completion, $a+_R_+b$ would still be different from the complex aRb . $_R_$ might be saturated by *any* particular object, so why by a and b ? (Vallicella 2000, 241-3) The ontological ground we seek is still to be found.

(C) According to option C the ground of the difference between aRb and $a+R+b$ lies in the complex itself. Option C, adopted by primitivists about facts or states of affairs, seems at first to detect a brute difference between sums and complexes, something in the fashion of a foot-stamping “sums differ from complexes because sums are different from complexes”. This, however, would amount to claiming that the difference has no ontological ground and therefore to rejecting M2 (Vallicella 2002, 18-9).

But one can also take option C as maintaining M2 and claiming that the ontological ground for the difference lies in the *unmereological composition* of the complex: sums and complexes are both entities composed of constituents, but the composition of the first kind of entities is mereological, the second is not. In fact, option C says that the complex aRb results from the same constituents as the sum $a+R+b$ *because* the first is unmereologically composed while the second is mereologically composed (cf. Armstrong 1989, 88-93; 2004, 141-2). However, this seems no more than a verbal trick. We can restate the problem immediately: what grounds the difference between mereological and unmereological composition? Without an answer to this question, there is no difference, so that the unmereologically composed complex aRb turns out to be identical and yet something else than the sum of its constituents at once. Now option C simply embraces the inconsistency. As Bradley puts it, C runs into a ‘flat contradiction’ (Bradley 1910, 179; cf. Lewis 1992, 200; Vallicella 2000, 247), and cannot be adopted.

(D) The ground may lie outside the complex. Vallicella proposes an external operator U to unify R with a and b . His idea is that there would be numerically one and the same operator for all complexes, and further that the unifying operations of U are neither grounded in a , R , and b , nor in the nature of U itself. But if the unifying operations of U are accidental, wouldn’t we need another operator to ground these operations? If so, an infinite regress of ever more operators is up and nothing is solved. If not, as Vallicella holds, U must have the special capacity of grounding its own accidental operations, something which R is not able to do. This means that there is an ontologically grounded difference between the complex $U\langle a, R, b \rangle$, where U contingently self-determines the actual relating, and the mereological sum $U+\langle a, R, b \rangle$ where U does not do that (Vallicella 2000, sect. 5; 2002, 28-31).

(M5) The Master Argument is valid, such that if M1-M4 hold, M5 follows.

Is all well? No, it is not.

2. What goes wrong?

Vallicella's Master Argument comes down to the following: (i) relations relate their relata; (ii) only the *U*-operator can ground the relating of relations; (iii) hence, relations relate their relata in virtue of the *U*-operator. The *U*-operator is an entity which unifies all relations with their relata, and which at the same time grounds its own accidental unifying operations. This conclusion does not have any intuitive support, however.

Imagine Bargle breaking the plate with the crackers in two pieces and then holding the pieces together so that Argle will not notice that the plate is broken: what Vallicella says is that the difference between the complex Bargle<piece 1, piece 2> and the sum Bargle+<piece 1, piece 2> is Bargle's contingent self-determination of keeping the two pieces together: the moment he stops doing that, the sum of constituents Bargle+<piece 1, piece 2> but not the complex Bargle<piece 1, piece 2> would continue to exist. *U* is, by analogy, an All-Purpose Big Bargle.

But just what creature of metaphysical fiction is *U*? Metaphysics often posits entities that strain credulity, such as binding relations and non-relational ties, but this is just one step too far. Can we do better? Let us see. If *U* is dismissed, and the argument stands, then there is something wrong with M1-M4. What is it?

Let us look at M3 and M2 first. Against M3, one might try to come up with some other option. But we think that the list is quite complete: either that which grounds the relating of relations lies inside the complex (in the constituents, or in some extra constituent), or it is the complex itself, or it lies outside the complex. As to M2, the assumption reflects the dictum "No Difference without a Difference Maker" and does not seem to be objectionable to us, *if M1 is accepted*. But why should one accept M1?

Against M1 one may hold that there is no difference between aRb and $a+R+b$ in the first place. This could mean two quite different things: either (i) you think that relations do not relate, that is, they do not form a unity with their relata, such that there are only sums of separated items, or (ii) you think that *R* relates its relata already in the sum $a+R+b$. The first option suggests that the request that relations must form a unity with their relata is far too strong, and that the sum $a+R+b$ of three separated entities is alright as it is. Why are

relations to be unified with their relata in the first place? The whole predicament depends on this request, but the reasons for accepting it are hardly discussed. Although we think that dropping the request is an interesting option, we shall not explore it any further here.⁴ So, we agree with Vallicella that there is a unity problem. But the second option seems to us attractive: unlike Vallicella, we accept Extensionality of Composition, the principle according to which if x and y are composed of the same things, $x = y$.⁵ So, applying this principle, if aRb and $a+R+b$ are composed of the same things, namely a , R and b , then $aRb = a+R+b$. If one succeeded, as we shall attempt to do, in showing convincingly how this could be accomplished, the problem would be solved right away, and in economy of means.

How about M4? Option A, i.e. that the ground lies in the constituents a , b , or R , is indeed no option, but options B and C require closer analysis.

Let us consider option C first. Is the unmereological composition of complexes as implausible as we have presented it so far? Unmereological composition has for sure its followers. Actually, Vallicella is one of them, as his preference for option D shows. Vallicella's adherence to M2 is not motivated by sympathy for the Extensionality of Composition (from the same components, the same objects), for Vallicella accepts unmereological composition: only, for him there cannot be unmereological composition *without an external composer*, that is, in the case at issue, the U -operator (2000, 246-7).

Obviously, a satisfying theory of unmereological composition that would serve the purpose could not be ad hoc, that is, unmereological composition could not be assumed for the sole aim of grounding the difference between complexes and sums. Now, there seems to be one *prima facie* reason to believe that there are indeed two kinds of composition at issue here: a mereological one and an unmereological one. Take a , R , and b where R is non-symmetric: *two* different complexes can be composed from the same constituents, aRb and bRa (Russell 1904, 98; Armstrong 1989, 90), but only *one* sum, $a+R+b$. The general point is that mereological composition would be such that the arrangement or *mode of combination* of the constituents plays no role, and unmereological composition would instead be such that the combination of constituents is quite important.

However, once you ask how we can account for such modes of combination the Russell-Armstrong suggestion is either (i) non-explanatory, or (ii) it doesn't show that the composition of complexes is unmereological.

⁴ Vallicella holds that we need the unity of R with its relata for the sake of truthmaker considerations (2002, 12-3; cf. Armstrong 1989, 88-9). However, why would propositions need genuine unities in the world in order to be true? There should be other reasons for why relations are to be unified with their relata.

⁵ For the general debate and a recent defence of the extensionality of composition and parthood, see Varzi (2008).

Ad (i), if you say that aRb consists of the three items a , R , b combined in a certain manner, and that aRb is the mode of combination of $a+R+b$, then you are claiming something like $aRb = aRb<a+R+b>$ (cf. Vallicella 2002, 31). The main problem with this proposal is that aRb reappears on the right-hand side. This complex is composed of the three items a , b , R , and, consequently, the very same problem of what its mode of combination consists in returns. That is, nothing has been gained by using unmereologically composed modes of combination in our explanation. So, generally, a complex cannot be wholly identical to the mode of combination of its constituents. The same reasoning – to the same effect – can be applied to the complex bRa .

But, ad (ii), if you say that aRb consists of $a+R+b$ plus the mode of combination of these constituents, and that this mode of combination is different from both $a+R+b$ and aRb , such that $aRb = a+R+b+\text{mode of combination}_1$ (and, similarly, $bRa = a+R+b+\text{mode of combination}_2$), then complexes are still mereologically composed. What is more, if complexes are formed by sums of constituents plus modes of combination, you find yourself, in fact, at option B – which we will see in a minute – not C.⁶ Indeed, modes of combination are very much like EX 's, they are binding relations with extra combinatorial or ordering roles, which involve the Relation Regress. All in all, exit option C.

Let us now turn to option B. Why is it structurally impossible to add an relation EX to $a+R+b$, which is able to ground the relating of R ? For sure Bradley's Relation Regress contributes to the idea that this would not work: if EX is added, the question returns on what grounds EX is related to $a+R+b$, and so on. The thought that any theory igniting an infinite regress should be rejected belongs to standard lore. But, as Maurin (2007, 1-2) puts it, infinite regresses by themselves do not prove nor disprove anything. One has first to determine whether the regress at issue is vicious, or not. Could Bradley's Relation Regress not be a harmless one after all?

Maurin (2007) argues that there is but one adequate criterion to divide vicious and harmless regresses, namely, we should look at the *direction of dependence* of the steps in it. In general, a regress is vicious if and only if the answer to its first question in S1 depends on the answer of all the other questions in S2-N; if this is not the case, and each question can be tackled independently of the questions and answers in the next steps, the regress is merely a strange side-effect of its underlying theory. Now is Bradley's Relation Regress vicious according to this criterion? Does the answer in S1 depend on the answers in S2-N? Yes. The unity problem is not solved in the first step. If the complex aRb forms a unity in virtue of the relation EX , then we can ask in virtue of what the larger complex $aEXRb$ forms a unity that makes it different from $a+R+EX+b$, and if the complex $aEXRb$ forms a unity in virtue of the relation EX^* , then we can ask in virtue of what the larger complex aEX^*EXRb

⁶ These modes of combination derive from Russell (1904).

forms a unity that makes it different from $a+R+EX*+EX+b$, and so on. The unity of aRb depends on the unity of $aEXRb$, which in turn depends on the unity of $aEX*EXRb$, and so on. Hence, EX indeed ignites a vicious infinite regress.

The regress is vicious *as it stands*. For the question remains: what is it, exactly, that makes EX fail to unify $a+R+b$ by itself? Which feature of EX is at stake? As long as this is not clarified one might still hold that the Relation Regress stops at S2.

Hence, apart from denying that there is a unity problem in the first place, we have two possible ways to stop Vallicella's Master Argument:

(Way-out Number One) Reject M1 by holding that R is able to do the relating work by itself.

(Way-out Number Two) Reject M4's B by holding that some extra binding relation EX is able to take over the relating work of R .

In the next two Sections we investigate why either R or EX fail to do their relating work in the Master Argument, and on this basis we shall make a case for Way-out Number One and Way-out Number Two.

3. Relations: *internal vs. external, universal vs. particular, relata-specific vs. relata-unspecific*

The reader may have noticed that we have not discussed as yet any feature of relations that underlie the whole Master Argument. In this Section, we define three distinct feature-pairs of relations before returning in the next Section to Vallicella's understanding of them: internality vs. externality, universality vs. particularity, and relata-specificity vs. relata-unspecificity. The definitions below are not beyond controversy. The main thing we want to show, however, is that there are three quite different pairs of features. Without the strict distinction between the three pairs, we hold that no good evaluation of Vallicella's Master Argument can come forward. Furthermore, without the strict distinction between the three pairs, no adequate understanding of the ontological category of relations is possible.⁷

Here's the first feature-pair:

⁷ Our account of the three feature-pairs has been inspired by Maurin's Perspectival Theory of Relations (Maurin 2006; cf. 2002, sect. 4.4.1).

- (D1) A relation is *internal* if and only if it is wholly grounded on corresponding properties of its relata.
- (D2) A relation is *external* if and only if it is not grounded on its relata, i.e. if it is an entity over and above its relata.⁸

Consider the situation that *a* and *b* have lunch, and that *a* eats as much as *b*. In this case we would expect that *a* has the property of eating, say, seven bananas, and that *b* has the same property. If this is so, then the *eating as much as* relation between *a* and *b* is wholly grounded on corresponding properties of *a* and *b*, namely, their eating properties. What does it mean that an internal relation is *wholly* grounded? That an internal relation is nothing over and above its relata, i.e. that it is not itself an entity falling under the predicate ‘eats as much as’. Thus, if *eating as much as* is an internal relation, there is in fact no such entity in the world, but only the property of eating seven bananas of *a* and of *b* taken together. Consequently, only external relations, not grounded on their relata, are genuine entities.

Spatial relations, such as *standing at two feet’s distance*, are classical examples of external relations. An examination of which relations are external is however not the concern of the current paper. We just assume that there is at least one such relation for which the question arises of how it does its relating work.

Here’s the second feature-pair:

- (D3) A relation is *universal* if and only if exactly similar relations are numerically identical with it.
- (D4) A relation is *particular* if and only if exactly similar relations are numerically different from it.

The distinction between universality and particularity is, compared to the other features, a lot more familiar in the literature. If *a* and *b* are in the relation of standing two feet away from each other, and *c* and *b* also are in this relation, are we then dealing with one or two relations? If the relation of standing two feet away from each other between *a* and *c* is numerically different from the relation of standing two feet away from each other between *b* and *c*, then those relations are particulars, or in other words, tropes; if those relations are, in fact, numerically one and the same, then they are universals. We thus take the universal/particular distinction to be a matter of counting.

⁸ Our take on the internal/external distinction derives from Russell (1907, 139-46).

Here's the third and last feature-pair:

- (D5) A relation is *relata-specific* if and only if it is in its nature to relate specific relata.
- (D6) A relation is *relata-unspecific* if and only if it is not in its nature to relate specific relata.

The feature of relata-specificity is in a certain way the opposite of the feature of internality. If a relation is internal, it is in the nature of its relata to hold the relation. But if a relation is relata-specific, it is in its own nature to relate specific relata. Suppose, again, that the relation of standing two feet away R holds between a and b . Then, if R is relata-specific, it relates a and b as soon as it exists, and consequently, R could not have existed and failed to relate a and b . But if R between a and b is relata-unspecific, then R could have existed and failed to relate a and b , and it could have related other relata, or perhaps it could have failed to relate anything at all.

It should be stressed that the features of externality and relata-unspecificity are quite different. More specifically, an external relation may still be relata-specific. In such a case, it is not in the nature of the relata to be related, but in the nature of the relation itself to relate specific relata. Moreover, exactly this combination of features will prove useful in meeting Vallicella's Master Argument.

Our notion of relata-specificity is similar to the notion of bearer-specificity or non-transferability in trope-literature. But in what sense? Cameron (2006, 99-100) distinguishes three versions of the feature of non-transferability: temporal non-transferability (TNT), weak non-transferability (WNT), and strong non-transferability (SNT), and we would like to add a fourth possible version, which is still stronger (SNT+):

- (TNT) If a trope G is *temporally* non-transferable, then if it so happens that a has G in the actual world at some time, no other bearer can have (i.e. take over) G in that world at some other time.
- (WNT) If a trope G is *weakly* non-transferable, then it can but belong to one bearer, say, a . Here, G is such that it might be had by a sooner or later, but no other bearer can have G in any possible world whatever.
- (SNT) If a trope G is *strongly* non-transferable, then if a has G in the actual world, a has G in all possible worlds in which G exists. Here, G is such that it is necessarily had by a as soon as G exists.

(SNT+) If a trope G is *strongly*+ non-transferable, then if a has G in the actual world, a has G in all possible worlds in which a exists. Here, G is such that it is necessarily had by a as soon as a exists.

If we return to D5, we note that only SNT captures our take on relata-specificity. Let us formulate D5 in terms of properties: a property is non-transferable if and only if it is in its nature to be had by a specific bearer. Suppose that property G is non-transferable in this sense, and it is in its nature to be had by a . Now, on the one hand, TNT and WNT are weaker, because then G could have failed to be had by a . On the other hand, SNT+ is stronger, because in those cases a can never fail in having G . Is there any way in between? Surprisingly perhaps, there is, and this is SNT. The point is that if a relation is relata-specific, it necessarily relates its relata, but *only* if it exists. To put it in possible worlds-terminology: if R holds between a and b in the actual world, it holds between a and b in all possible worlds in which R exists (and not in any possible world in which a and b exist, or in any possible world whatsoever).

Although we have just discussed the feature of relata-specificity in a trope-theoretical framework, we do not want to restrict it to tropes, and let therefore particularity and relata-specificity collapse (cf. Betti 2006, n. 23). In other words, relata-specific relations can still be universals. In such a case, it is in the nature of relations to relate many different pairs (or triples, quadruples, etc) of relata at once. The universal-variant is a bit complicated though, and an exhaustive discussion of this point would go far beyond our aims here. In the remainder of this paper we stay neutral on the universals/tropes dispute.

The main point of strictly distinguishing between the three feature-pairs is that we are allowed to combine the six features in a variety of ways, that is, eight. As we have seen, however, not internal, but only external relations are entities over and above their relata which can possess other features, so that the possible combinations of features reduce to four:

- externality + relata-specificity + universality
- externality + relata-specificity + particularity
- externality + relata-unspecificity + universality
- externality + relata-unspecificity + particularity

In the next Section we shall investigate which combination of features is at issue in Vallicella's Master Argument.

4. *Relata-specificity*

The question again: what makes R and EX fail in doing their relating work? Only the assumption that relations must be relata-unspecific, that is, that it is not in the nature of relations to relate specific relata. It is because Vallicella's Master Argument assumes relations to be relata-unspecific that there must be an account of how relations do their relating work.

Consider Way-out Number One. As we saw, this involves rejecting M1 by denying that R would not be able to do the relating work by itself. If R is relata-specific, and it is thus in the nature of R to relate a and b , then aRb exists as soon as R exists. So, there is simply no difference between $a+R+b$ and aRb . Consider Way-out Number Two. If not R but EX is relata-specific, and it is in the nature of EX to relate R to a and b , then aRb exists as soon as EX exists. Then there is, again, no difference between $a+R+EX+b$ and aRb . In both cases, Bradley's vicious Relation Regress is blocked, and the unity problem solved.

But if the solution to the unity problem of relations is this simple, why did Vallicella not adopt Way-out One or Two? Our hypothesis is twofold: (H1) In Vallicella's account the three-fold distinction we have put forward in the previous Section is confused, such that no proper understanding of relata-specificity could come forward, and (H2) Vallicella presents in his 2004-paper an objection to what we have defined as relata-specificity that he takes to be decisive. Both points will be expounded in turn.

(H1) We take the following to be Vallicella's definitions of externality and universality:

(D#2) A relation is external if and only if it could have related another pair (or triple, quadruple, etc) of relata. This is what he repeatedly claims: 'we surely don't want to say that a relation that relates a and b , by its very nature as a relation, could not have related any other pair. That would contradict the fact that R is external to its terms.' (Vallicella 2000, 240; cf. 2002, 14-5, 31; 2004, 164)

(D#3) A relation is universal if and only if it is repeatable and not exhausted in relating one pair (or triple, quadruple, etc) of relata. (Vallicella 2002, 14-5, 31; 2004, 164)

As we see, both D#2 and D#3 come very close to our relata-unspecificity (D6). If a relation is relata-unspecific in our sense, it is not in its nature to relate specific relata, so that it could have related other relata (as in D#2), and it is also not exhausted in relating only one pair

(or triple, etc) of relata (as in D#3). Vallicella's definitions do not allow the strict distinction we hold between the three feature-pairs, and it is obvious why they are unsatisfactory: by conflating the three pairs they make some combinations impossible by definition, to wit the combination of externality and relata-specificity.

(H2) Vallicella's objection to what we have defined as relata-specificity can be stated as follows: (i) for a relation R to be relata-specific, such that it is in its nature to relate, say, a and b as soon as it exists, it must incorporate its relata; (ii) if the relation incorporates its relata, then it is identical to aRb ; (iii) if the relation is already the complex aRb itself, then it cannot *also* relate a and b ; (iv) hence, relata-specific relations cannot do their relating work (Vallicella 2004, 173-4).⁹

If Vallicella's conception of relata-specificity is right, then there is one more problem for relations. If relations incorporate their relata, they become complex entities composed of certain particular objects *in relation*. This means that the original unity problem is only transferred to the composition of the relation, that is, the question in virtue of what relations do their relating work now occurs inside the relation itself. So even conceding relata-specificity as a separate feature of relations next to the other five we have distinguished, it might still be the case that it is implausible anyway for relations to possess that feature, that is, it might be implausible for relations to be relata-specific.

We, however, do not see what forces us to accept that relata-specific relations incorporate their relata. Although it is unclear what the non-metaphorical content of unsaturatedness would be, a relata-specific relation may be conceived as an unsaturated entity that possesses slots in which specific objects fit. In case of the complex aRb , the relation in it would have one slot for the particular a and one slot for the particular b , like this: ${}_aR_b$.¹⁰ That relations be unsaturated or incomplete entities fits well with the intuition that it is hard to see what relations are without them holding between *any* pair of objects. If those slots are also relata-specific, the unity problem can be solved. More specifically, then ${}_aR_b$ relates a and b as soon as it exists, and this entity is surely not identical with aRb : it is only one of the three constituents.

In this case the complex aRb is however identical to the sum of constituents $a + {}_aR_b + b$. Are complexes, understood as unities of relations with their relata, then

⁹ Vallicella's objection is directed to Mertz (1996). As a referee pointed out, our proposal is close to Mertz's. This is right except for the crucial fact that we do not think it is the particularity or unrepeatability of relations that grounds their relating work, but their relata-specificity.

¹⁰ These relata-specific slots should not be confused with the positions of Positionalism (from Fine 2000, sect. 3). For instance, if a 's being on top of b , Positionalism analyses the relation between a and b as ${}_{upper}R_{lower}$. But these positions can still be relata-unspecific (or not).

identical to mereological sums? Yes, but only to sums which contain (i) a relata-specific relation as constituent, and also (ii) the specific relata of the relation. So, the complex aRb is identical to the sum $a+_aR_+b$, but not, for instance, to the sum $a+_aR_+c$, or the sum $a+_cR_+b$.

If our reasoning is right, there is no reason to have the U -operator rather than relata-specific relations. Or is there some reason after all? In the literature on tropes we find one objection to the feature of non-transferability of trope-properties which may easily be transformed into an objection to the relata-specificity of relations. Let us discuss it briefly.

As Armstrong puts it (in response to Martin's adherence to non-transferable tropes), non-transferability of tropes entails "a rather mysterious necessity in the world" (Armstrong 1989, 117-8; cf. Lewis 1998). Put in terms of relata-specificity, the question becomes: is there not something modally very very mysterious in relations that by their very nature cannot but relate specific relata? We do not think so. By claiming that relations are relata-specific, one does not claim that relations exist necessarily, that they could not have failed to exist. Neither does one claim that relata, like Argle and the plate of crackers, could not have been related by other relations. Whoever claims that relations are relata-specific claims only that *if* a relation exists, it necessarily relates specific relata and could not have failed to do so. As Maurin (2002, 165) points out, there is no necessary connection *simpliciter*, the necessity is only one-way: from relations to relata. What, really, is mysterious about that?

Concluding, if the relations R or EX are to be relata-specific, then both Way-out Number One and Two are good options to stop Vallicella's Master Argument.

5. Conclusion

One question remains. Which of them is to be adopted: Way-out Number One or Two? In Way-out Number One, R is relata-specific, and therefore R takes care of its own relating work. In Way-out Number Two, it is not R to be relata-specific, but an extra binding relation EX is to be such: EX unifies a relata-unspecific R to its relata. Obviously, if R itself can be relata-specific and relate its relata, then it would be strange and superfluous to add some entity EX which has to take over the relating work of R .

Way-out Number Two could still be more appealing to whomever prefers relations not to carry the burden of relating relata by necessity, insofar as it is not R but EX that carries it (cf. Meinertsen 2008). We do not quite see the real gain of this. This option is not inconsistent, but it would then be ad hoc to let EX rather than R carry the burden. The point

is: why should we be prepared to accept relata-specific binding relations, whereas we are not prepared to accept relata-specific ordinary relations in the first place? Hence, we opt for Way-out Number One, so that the distinction between relations which relate relata and relations which do not collapses: all relations relate relata and carry out their own unifying work.

Let us finally summarise the results of this paper. Far from concluding that relations need Vallicella's *U*-operator, if we want relations to do their relating work, they cannot be but external and relata-specific, that is, they are not grounded on properties of their relata, and, crucially, it is in their nature to relate specific objects as soon as they exist.¹¹ Furthermore, complexes composed by relata-specific relations and their specific relata obey Extensionality of Composition insofar as they are identical to the mereological sum of the things of which they are composed.

One might still think that relata-specific relations as we have just characterized are implausible objects. But for sure they are no more controversial than any of the entities mentioned in this paper: plates of crackers, Argle, Bargle, the sum of all three, and any relation whatsoever. Not to mention All-Purpose Big Bargle.¹²

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¹¹ Given this result for the category of relations, it is not difficult to make a similar case for the category of properties. This would mean that a property, if not wholly grounded on other properties or relations, is bearer-specific, i.e. it is in its nature to belong to a specific bearer as soon as it exists.

¹² We wish to thank to the members of the group *Ontology and Epistemology* of the Faculty of Philosophy of the Vrije Universiteit Amsterdam, and four anonymous referees of *dialectica* for comments.

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